

**B.Sc. Hons. Computer Science**  
**Computer Networks**  
**Semester IV ( NEP)**  
**Curriculum Planner**

Unit	Topic	Chapters	Schedule(approx.)
I	<b>Introduction:</b> Types of computer networks, Internet, Intranet, network topologies (bus, star, ring, mesh, tree, hybrid topologies), network classifications. layered architecture approach, OSI Reference Model, TCP/IP Reference Model. Transmission Modes: simplex, half duplex and full duplex.	Chapter 1 Chapter 2	January
2	<b>Physical Layer:</b> Analog signal, digital signal, the maximum data rate of a channel, transmission media (guided transmission media, wireless transmission, satellite communication), multiplexing (frequency division multiplexing, time-division multiplexing, wavelength division multiplexing). Guided Media (Wired) (Twisted pair, Coaxial Cable, Fiber Optics. Unguided Media (Radio Waves, Infrared, Microwave, Satellite).	Chapter 3 Chapter 4 Chapter 6 Chapter 7	February
3	<b>Data Link and MAC Layer:</b> Data link layer services, error detection and correction techniques, error recovery protocols (stop and wait, go back n, selective repeat), multiple access protocols with collision detection, MAC addressing, Ethernet, data link layer switching, point-to-point protocol.	Chapter 3 Chapter 11 Chapter 4 Chapter 2	March
4	<b>Network layer:</b> Networks and Internetworks, virtual circuits and datagrams, addressing, subnetting, Dijkstra Routing algorithm, Distance vector routing, Network Layer protocol- (ARP, IPV4, ICMP).	Chapter 5	April
5	<b>Transport and Application Layer:</b> Process to process Delivery- (client-server paradigm, connectionless versus connection-oriented service); User	Chapter 6 Chapter 7	May

